

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
14 July 2005 (14.07.2005)

PCT

(10) International Publication Number
WO 2005/063721 A1

(51) International Patent Classification⁷: **C07D 239/42**,
A01N 43/54

(74) Agent: **BIRCH, Linda, D.**; E.I. Du Pont De Nemours And Company, Legal Patent Records Center, 4417 Lancaster Pike, Wilmington, DE 19805 (US).

(21) International Application Number:
PCT/US2004/042302

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(22) International Filing Date:
16 December 2004 (16.12.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/531,300 19 December 2003 (19.12.2003) US
60/598,397 3 August 2004 (03.08.2004) US

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(71) Applicant (*for all designated States except US*): **E.I. DUPONT DE NEMOURS AND COMPANY** [US/US]; 1007 Market Street, Wilmington, DE 19898 (US).

(72) Inventors; and

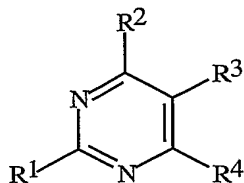
(75) Inventors/Applicants (*for US only*): **CLARK, David, Alan** [GB/US]; 109 Stoney Ridge Road, Landenberg, PA 19350 (US). **FINKELSTEIN, Bruce, Lawrence** [US/US]; 26 Auspice Circle, Newark, DE 19711 (US). **ARMEL, Gregory, Russell** [US/US]; 514 Turnberry Court, Bear, DE 19701 (US). **WITTENBACH, Vernon, Arie** [US/US]; 609 Greenbank Road, Wilmington, DE 19808 (US).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: HERBICIDAL PYRIMIDINES



(i)

(57) Abstract: Compounds of Formula I, and their *N*-oxides and agriculturally suitable salts, are disclosed which are useful for controlling undesired vegetation wherein R¹ is cyclopropyl optionally substituted with 1-5 R⁵, isopropyl optionally substituted with 1-5 R⁶, or phenyl optionally substituted with 1-3 R⁷; R² is ((O)_jC(R¹⁵)(R¹⁶))_kR; R is CO₂H or a herbicidally effective derivative of CO₂H; R³ is halogen, cyano, nitro, OR²⁰, SR²¹ or N(R²²)R²³; R⁴ is -N(R²⁴)R²⁵ or -NO₂; j is 0 or 1; and k is 0 or 1; provided that when k is 0, then j is 0; and R⁵, R⁶, R⁷, R¹⁵, R¹⁶, R²⁰, R²¹, R²², R²³, R²⁴ and R²⁵ are as defined in the disclosure. Also disclosed are compositions comprising the compounds of Formula I and a method for controlling undesired vegetation

which involves contacting the vegetation or its environment with an effective amount of a compound of Formula I. Also disclosed are compositions comprising a compound of Formula I and at least one additional active ingredient selected from the group consisting of an other herbicide and a herbicide safener.

WO 2005/063721 A1